

Regeln

You have 25 minutes to submit answers. There are 11 questions and a correct answer is always a positive real number i.e. question i has answer $\theta_i \in \mathbb{R}_+$ for $i = 1, 2, \dots, 11$. Submissions are made in the form of an interval:

$$[\text{Min}_i, \text{Max}_i]$$

Note that both endpoints are included. Each team has 16 guesses hence multiple submissions for questions is possible although the score, and hence the correctness of the guess, will always be based on the **latest** submission to the question. Submissions can be made throughout the quiz. The team's score is given by the formula:

$$\left(10 + \sum_{i: \text{Min}_i \leq \theta_i \leq \text{Max}_i} \left\lfloor \frac{\text{Max}_i}{\text{Min}_i} \right\rfloor \right) \cdot 2^{11 - \# \text{correct guesses}}$$

Where $\lfloor \cdot \rfloor$ is the floor function.

Hence, at the beginning of the quiz all teams have a score of $(10 + 0) \cdot 2^{11-0} = 20480$ points.

When the time is up, the team with the **lowest** score wins.

When submitting an interval it must clearly state:

- Team
- Question
- Interval.

Using scientific notation is allowed but must follow the conventions of R e.g.:

100 = 1e2

93.000 = 93e3

1.010.000.000 = 101e7

etc.

After submission the team (and everybody else) will be able to see whether the guess is correct or not and if so the value of the answer in the sum i.e. $\lfloor \text{Max}_i / \text{Min}_i \rfloor$ as well as the updated total score.

Fragen

1. Number US president which was the first to be of religion Christian Catholic.
2. The largest difference between *apparent solar time* and *mean solar time*. I.e. The largest difference observed in a calender year between a perfect solar clock and a true clock if they match on 1. January.
3. Casualties in the deadliest disaster in aviation history
4. According to Finnish Army documents, from the outbreak of the Winter War 30th November 1939 to 22nd of december (22 days), how many confirmed sniper kills did Finnish soldier Simo Häyhä (1905-2002), who was known as *Belaja Smert* in russian (The White Death) have?
5. Super Mario 64 released 1996 for Nintendo 64:
on 11th Nov. 2021 a new speedrun record was made for completing the game perfectly i.e. 120 stars. What is this record in seconds?
6. The danish party 'Valgfest med mexicansk tema' (party letter E) held their 2021 reginal election party at Mexibar on Nørrebro, using last election's 'Partistøtte' for open bar. How many DKK did this amount to?
7. Consider an urn with n balls of which $1 \leq d \leq n$ are black. At time $1, 2, \dots, n$ a draw without replacement is made. The time of drawing the k th black ball, τ , is then concentrated on $\{k, \dots, n - d + k\}$.
For $n = 100$, $d = 10$, $k = 3$ what is $\mathbb{E}(\tau)$?
8. Numer of days sailing during Christoffer Columbus' first voyage (1492) before reaching present day Bahamas.
9. Number of countries that the Equator passes through the *land* of.
10. At what age did Jean-Michel Basquiat die?
11. Width of the Vietnamese Demilitarized Zone, at its thinnest point in meters.